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Exhibit 300: Capital Asset Summary
Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview & Summary Information

Date Investment First Submitted: 2009-06-30
Date of Last Change to Activities: 2012-07-25
Investment Auto Submission Date: 2012-02-27
Date of Last Investment Detail Update: 2012-02-27
Date of Last Exhibit 300A Update: 2012-08-23
Date of Last Revision: 2012-08-23

Agency: 021 - Department of Transportation   **Bureau:** 12 - Federal Aviation Administration

Investment Part Code: 01

Investment Category: 00 - Agency Investments

1. Name of this Investment: FAAXX703: System Wide Information Management (SWIM)

2. Unique Investment Identifier (UII): 021-620588994

Section B: Investment Detail

1. **Provide a brief summary of the investment, including a brief description of the related benefit to the mission delivery and management support areas, and the primary beneficiary(ies) of the investment. Include an explanation of any dependencies between this investment and other investments.**

    System Wide Information Management (SWIM) is being developed as the focal information management and data sharing system for NextGen. SWIM will collect and disseminate information in addition to providing services to the aviation community. Briefly, SWIM is like a data switchboard enabling registered users to request and/or provide standard data packages from registered data sources. SWIM Segment 1 includes 9 capabilities which were selected based upon the needs of various data communities, maturity of concepts of use, and the ability of existing programs to accommodate development of these capabilities within their existing program plans. Future segments will include additional capabilities that move the FAA toward the data sharing required for NextGen & National Airspace System (NAS) programs. Segment 1 leverages existing programs, systems and networks, and will integrate technologies introduced into the NextGen system. The SWIM Implementing Programs (SIPs) will host the SWIM-provided core services commercial software on existing hardware, if available, or will procure hardware as part of a planned future release to support implementation of the SWIM compliant services. SWIM Segment 1 will be fully operational in FY15.   The plan for Segment 1 is for each SIP to design, implement, and deploy SWIM-compliant services to provide the interface between the producers and consumers through the SWIM infrastructure. The plan for Segment 2 is for SWIM to provide Enterprise Messaging in lieu of the SIPs. Each independent SIP creates service endpoints, which are the

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entry points for the SWIM services and are where SIP data resides. When a service consumer requests data, that request is routed to the endpoint containing the requested data by SWIM Enterprise Messaging services in order to fulfill the data request. Further, nodes to handle additional service endpoints are being deployed by Harris Corporation in FY12 to meet the projected demands of the SWIM Segment 2 architecture. SWIM holds dependencies with: NextGen Enabled Weather (NNEW), En Route Automation Modernization (ERAM), Traffic Flow Management (TFM), and FAA Telecommunications Infrastructure (FTI).

2. **How does this investment close in part or in whole any identified performance gap in support of the mission delivery and management support areas? Include an assessment of the program impact if this investment isn't fully funded.**

 In the past, the network architecture for connecting two systems within the NAS required a fixed network connection and custom, point-to-point, application-level data interfaces. Current NAS operations depend upon multiple, independent legacy information systems with some systems entirely unconnected. The FAA has identified a need to reduce the high degree of interdependence among systems and move away from the proliferation of unique, point-to-point application interfaces. This investment will bridge the gap between point-to-point data sharing and net-centric data sharing. In the past, there was a need to create an interface requirement and control documents for each interface. This in itself was costly due to the number of FTEs required, and further involved the implementation of individual interfaces for each system to system communications connection. By migrating to the net-centric service oriented architecture (SOA) model for data exchange, the NAS will be improved through more efficient communications that employ endpoint connections to SWIM-compliant services from which all SIP data can be consumed. SWIM efficiently exchanges data across systems in the NAS through registered SWIM-compliant services. The services are registered in the NAS Service Registry Repository (NSRR) through Web Service Description Documents, Web Service Definition Language, and Schema documents to advertise their availability. The SWIM concept was further proposed to meet the following NAS shortfalls identified by the FAA which pose significant barriers in moving to NextGen: •High cost to develop, test, deploy and support new interfaces and applications •The NAS is not an agile air traffic system •Data sharing in the NAS is labor-intensive •Timely access to common data is lacking in the NAS •The underlying tools to support becoming a performance-based organization are currently lacking. If the investment is not fully funded, the NAS shortfalls identified above will not be addressed and the barriers will remain that prevent the FAA from moving forward with NextGen plans.

3. **Provide a list of this investment's accomplishments in the prior year (PY), including projects or useful components/project segments completed, new functionality added, or operational efficiency achieved.**

  •The following SWIM Implementing Programs (SIPs) deployed SWIM-compliant services: Integrated Terminal Weather System (ITWS), Corridor Integrated Weather System (CIWS), and Aeronautical Information Management (AIM) •Completed development of Weather Message Switching Center Replacement (WMSCR) SIP •Deployed the TFM Re-route data-exchange service.

4. **Provide a list of planned accomplishments for current year (CY) and budget year (BY).**

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During FY2012, SWIM will continue to maintain the NAS SWIM Registry Repository (NSRR) and add services as Segment 2 SIPs make their services available, in addition to maintaining the NSRR, the Governance Policy and Procedures will need to be updated to reflect changes in Segment 2. In Segment 1, SWIM utilized SIPs to send messages from provider to consumer; in Segment 2 this will be accomplished through the NAS Enterprise Messaging services. WMSCR will deploy its pilot report (PIREP) capability and make these reports available in electronic format rather than in paper format as is used today. Traffic Flow Management (TFM) will provide SWIM with a gap analysis for Release 7 while updating their requirements for Segment 2 in order to authorize them to continue development work. Tower Data Distribution System (TDDS) will have deployed its publication services which will allow for pre-departure reroutes to occur electronically within the NAS through the use of the SWIM infrastructure, which includes utilizing the previously deployed TFM services.   In FY13, SWIM expects to deploy the full Tower Data Distribution Service (TDDS) functionality to provide all tower data, such as gate information and ASDE-X surface radar track data, to consumers. Additionally, the SWIM TDDS (STDDS) Runway Visual Range (RVR) Publication service will also be deployed with TFM as a consumer.

5. **Provide the date of the Charter establishing the required Integrated Program Team (IPT) for this investment. An IPT must always include, but is not limited to: a qualified fully-dedicated IT program manager, a contract specialist, an information technology specialist, a security specialist and a business process owner before OMB will approve this program investment budget. IT Program Manager, Business Process Owner and Contract Specialist must be Government Employees.**

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Section C: Summary of Funding (Budget Authority for Capital Assets)

1.

Table I.C.1 Summary of Funding				
	PY-1 & Prior	PY 2011	CY 2012	BY 2013
Planning Costs:	$61.4	$8.8	$20.5	$0.0
DME (Excluding Planning) Costs:	$84.4	$80.1	$45.6	$33.0
DME (Including Planning) Govt. FTEs:	$12.1	$4.1	$2.9	$3.0
Sub-Total DME (Including Govt. FTE):	$157.9	$93.0	$69.0	$36.0
O & M Costs:	$0.3	$3.4	$5.0	$6.6
O & M Govt. FTEs:	$0.0	$0.4	$0.3	$0.2
Sub-Total O & M Costs (Including Govt. FTE):	$0.3	$3.8	$5.3	$6.8
Total Cost (Including Govt. FTE):	$158.2	$96.8	$74.3	$42.8
Total Govt. FTE costs:	$12.1	$4.5	$3.2	$3.2
# of FTE rep by costs:	78	31	25	25

Total change from prior year final President's Budget ($)		$-2.3	$0.8	
Total change from prior year final President's Budget (%)		-2.32%	1.09%	

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2. If the funding levels have changed from the FY 2012 President's Budget request for PY or CY, briefly explain those changes:

FY11 and FY12 funding changes were due to increased O&M costs.

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Section D: Acquisition/Contract Strategy (All Capital Assets)

Table I.D.1 Contracts and Acquisition Strategy											
Contract Type	EVM Required	Contracting Agency ID	Procurement Instrument Identifier (PIID)	Indefinite Delivery Vehicle (IDV) Reference ID	IDV Agency ID	Solicitation ID	Ultimate Contract Value ($M)	Type	PBSA ?	Effective Date	Actual or Expected End Date
Awarded	6920	DTFAWA-10-C-00032									
Awarded	6920	DTFAWA-08-C-00068									
Awarded	6920	DTFAWA-09-D-0001									
Awarded	6920	DTFAWA-08-C-00111									
Awarded	6920	DTFAWA-10-C-00039									
Awarded	6920	DTRT57-08-D-30013									
Awarded	6920	DTFA03-02-D-00015									

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:

North Star contract though is above $10M, is a Staff Augmentation contract, and FAA AMS policy does not require EVM reporting on staff augmentation contracts.   Fuse Software contract is used for annual software membership updates for SWIM program.

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Exhibit 300B: Performance Measurement Report

Section A: General Information

Date of Last Change to Activities: 2012-07-25

Section B: Project Execution Data

Table II.B.1 Projects					
Project ID	**Project Name**	**Project Description**	**Project Start Date**	**Project Completion Date**	**Project Lifecycle Cost ($M)**
37	Segment 2 Governance	SWIM Segment 2 Governance entails the strategic governance processes development, the Governance Plan FY12 Review/Update, definition and development of Enterprise Information Management.			
41	Segment 2 SWIM Requirements and Architecture	Standards in the SOA environment are rapidly evolving, and are expected to change between SWIM segments. To accommodate these changes, the SWIM architecture encourages the separation of mission logic components, which implement Air Traffic Management (ATM) services, from information technology (IT) components, which implement standards-based core services. For example, the core services allow IT software components to be replaced as necessary to adapt to changing standards, with minimal impact.			
91	Traffic Flow Management SIP	Traffic Flow Management (TFM)			

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	Table II.B.1 Projects				
Project ID	**Project Name**	**Project Description**	**Project Start Date**	**Project Completion Date**	**Project Lifecycle Cost ($M)**
		– The Reroute Data Exchange (RR) will allow for the transfer of flight plan amendments and pre-departure rerouting information between TFM and En Route domains.			
61	Pilot Reports Data Publication for the Weather Message Switching Center Replacement (WMSCR) SIP	Weather Message Switching Center Replacement (WMSCR) enables the distribution of Pilot Reports (PIREPs) and altimeter settings to Aviation Weather Centers (AWCs) for the generation of advisories on significant weather impacting aviation.			
75	SWIM Terminal Data Distribution for the Terminal Data Distribution System (TDDS) SIP	SWIM Terminal Data Distribution System (TDDS) provides the infrastructure for a SWIM interface to Terminal legacy systems such as Runway Visual Range (RVR), Airport Surface Detection Equipment, Model X (ASDE-X), and Electronic Flight Strip Transfer System (EFSTS).			
81	EnRoute Flight Data Publication	Provide the flight plan data to TFM and other NAS programs, allowing for the amendments to filed flight plans. The amended flight plans are transferred back for distribution within the En-Route domain.			

	Activity Summary							
	Roll-up of Information Provided in Lowest Level Child Activities							
Project ID	**Name**	**Total Cost of Project Activities ($M)**	**End Point Schedule Variance (in days)**	**End Point Schedule Variance (%)**	**Cost Variance ($M)**	**Cost Variance (%)**	**Total Planned Cost ($M)**	**Count of Activities**
37	Segment 2 Governance							

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Activity Summary

Roll-up of Information Provided in Lowest Level Child Activities

Project ID	Name	Total Cost of Project Activities ($M)	End Point Schedule Variance (in days)	End Point Schedule Variance (%)	Cost Variance ($M)	Cost Variance (%)	Total Planned Cost ($M)	Count of Activities
41	Segment 2 SWIM Requirements and Architecture							
91	Traffic Flow Management SIP							
61	Pilot Reports Data Publication for the Weather Message Switching Center Replacement (WMSCR) SIP							
75	SWIM Terminal Data Distribution for the Terminal Data Distribution System (TDDS) SIP							
81	EnRoute Flight Data Publication							

Key Deliverables

Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
37	Develop and Maintain Enterprise Information Management Plan	This activity is focused on improving data quality, ownership, visibility and usability, consistency in metadata description and data understandability.	2012-02-08	2012-02-08	2012-02-08	222	0	0.00%
41	Develop prototype for Identity Key Management (IKM) Enterprise Architecture for security	The development of the Identity Key Management (IKM) system which includes the SWIM Domain Name Server (DNS) is	2012-03-22	2012-03-22	2011-12-21	177	92	51.98%

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						Key Deliverables		
Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
		at the prototype stage for Segment 1.						
41	Update SWIM Segment 2 Requirements	The requirements documents, which include the System Specification Documents and Interface Requirements Documents, will need to be updated and necessary gap analysis conducted for proposed changes to the SWIM baseline.	2012-05-22	2012-05-22	2012-05-22	286	0	0.00%
91	Gap Analysis for Traffic Flow Management (TFM), between prior Release 7 and planned Release 9	TFM Release 7 was planned to handle all messaging services between Tower and Enroute; however, the SWIM program's enterprise services now provides this interface. TFM R7 is not needed any more. This gap analysis is to determine whether any remaining functionality planned for TFM R7 should be moved to TFM R9, which is a SWIM APB milestone (Aug 2013). Subsequent activities will be planned based on the result of this gap analysis.	2012-05-30	2012-05-30	2012-05-30	272	0	0.00%
75	Tower Data Distribution System (TDDS) – Release 2 Software Design, Development, and Test	This activity entails the design and development of TFM Release 2 which will address problem reports identified with	2012-06-01	2012-06-01	2012-06-01	213	0	0.00%

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				Key Deliverables				
Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
		Release 1.						
37	Review and Update Governance Plan and Policies guiding principles, structure, and responsibilities for governance of the SWIM Service Oriented Architecture (SOA). The plan also describes a framework to guide deployment of SWIM SOA Governance.	SWIM Segment 2 Governance entails the strategic governance processes development, the Governance Plan FY12 Review/Update, definition and development of Enterprise Information Management.	2012-09-27	2012-09-27		131	0	0.00%
41	Update SWIM Segment 2 Enterprise Architecture	The Enterprise Architecture Views for the Core Services will be updated to reflect changes since the original documents were drafted.	2012-09-27	2012-09-27		224	0	0.00%

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Section C: Operational Data

Table II.C.1 Performance Metrics								
Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
SWIM is expected to facilitate and reduce the time needed for Pre-Departure Reroutes through the use of SWIM compliant services in an effort to improve overall NAS efficiency. This metric will be calculated utilizing data provided by TFM as to the total number of automated reroutes versus the total number of reroutes in a percentage form.	Percentage	Customer Results - Timeliness and Responsiveness	Over target	0.000000	0.000000	0.000000	5.000000	Semi-Annual
In an effort to provide SWIM information and data to external users in a reliable and secure manner, the use of a National Airspace System (NAS) Enterprise Secure Gateway (NESG) is utilized for external data sharing. SWIM is committed to adding more users each year and to continuously measure an increase in the number of external users who are not inside of the NAS, such as private companies and Airline Operation Centers	Number	Technology - Information and Data	Over target	3.000000	4.000000	4.000000	5.000000	Semi-Annual

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Table II.C.1 Performance Metrics								
Metric Description	**Unit of Measure**	**FEA Performance Measurement Category Mapping**	**Measurement Condition**	**Baseline**	**Target for PY**	**Actual for PY**	**Target for CY**	**Reporting Frequency**
who would access SWIM data through the secure NESG.								
Each time a new SWIM service provider wishes to promote a service to the next lifecycle stage, the provider submits a request for approval to the SWIM Governance Lead for review and a decision. In order to be more timely and responsive, SWIM strives to set a decision process timeline of no more than 16 days from receipt of request to notification of decision.	Days	Process and Activities - Cycle Time and Timeliness	Under target	16.000000	16.000000	2.170000	16.000000	Semi-Annual
SWIM seeks to readily make available airport surface data to subscribers by offering connections to a number of unique Airport Surface Detection Equipment Model X (ASDE-X) sites through Tower Data Distribution System (TDDS) SWIM compliant interfaces. The intent is to increase the count of SWIM-compliant services offering tower data to	Number	Customer Results - Service Accessibility	Over target	0.000000	0.000000	0.000000	3.000000	Semi-Annual

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Table II.C.1 Performance Metrics

Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
consumers each year in an effort to provide more service accessibility.								
SWIM Integrated Terminal Weather System (ITWS) made it possible to distribute real-time ITWS digital data to consumers in an industry-standard Extensible Markup Language (XML) using a Service Oriented Architecture (SOA) compliant web services interface. Consumers rely on this digital data to provide custom map overlays of weather data when performing flight planning. The goal of SWIM is to have this service available to consumers 98% of the time.	Percentage	Technology - Reliability and Availability	Over target	98.000000	98.000000	99.000000	98.000000	Monthly
SWIM NAS Enterprise Messaging System (NEMS) enables service providers and consumers to avoid costs associated with developing their own messaging infrastructure and promotes NextGen goals for Net-centeric Operations. NEMS will be used by SIPs	Number	Customer Results - Timeliness and Responsiveness	Over target	0.000000	0.000000	0.000000	2.000000	Semi-Annual

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Table II.C.1 Performance Metrics								
Metric Description	**Unit of Measure**	**FEA Performance Measurement Category Mapping**	**Measurement Condition**	**Baseline**	**Target for PY**	**Actual for PY**	**Target for CY**	**Reporting Frequency**
to provide and consume SWIM data. On-ramping is the governance process for becoming authorized to use NEMS services. This metric is measured by counting the number of users on-ramped to NEMS.								